

PRODUCT INFORMATION



Succinyl-CoA synthetase

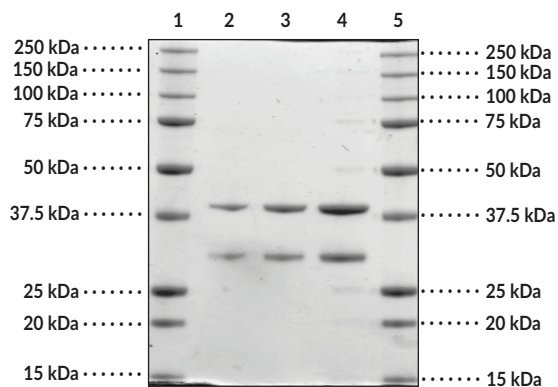
Item No. 22673

Overview and Properties

Synonyms: SCS, Succinate Thiokinase, Succinyl Coenzyme A Synthetase
Source: Active *E. coli* (strain K12) C-terminal His-tagged Succinyl-CoA synthetase enzyme purified from *E. coli*
Uniprot Nos.: POA836, POAGE9
Molecular Weight: 29.8 kDa (α), 41.4 kDa (β)
Storage: -80°C (as supplied); avoid freeze/thaw cycles by storing protein in aliquots
Stability: ≥ 1 year
Purity: **batch specific** ($\geq 85\%$ estimated by SDS-PAGE)
Supplied in: 50 mM HEPES, pH 8.0, 150 mM sodium chloride, 20% glycerol
Protein Concentration: **batch specific** mg/ml
Activity: **batch specific** U/ml
Specific Activity: **batch specific** U/mg
Unit Definition: One unit is defined as the amount of enzyme required to produce 1 nmol NADH per minute at 25°C in 34 mM Glycylglycine buffer, pH 8.4, 3.4 mM Magnesium Chloride, 1.2 mM ATP, 0.89 mM Coenzyme A, 5.8 mM Succinic acid, 4.1 U/mL pyruvate kinase, 3.4 U/mL Lactic Dehydrogenase.¹

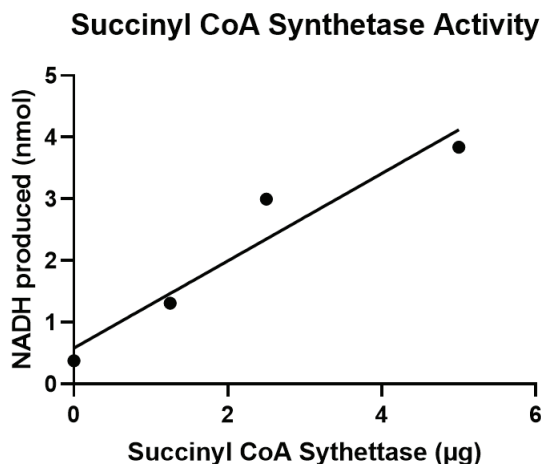
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: Succinyl-CoA synthetase (1 μ g)
Lane 3: Succinyl-CoA synthetase (2 μ g)
Lane 4: Succinyl-CoA synthetase (4 μ g)
Lane 5: MW Markers

Representative gel image shown; actual purity may vary between each batch.



WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Succinyl-CoA synthetase from *E. coli* is responsible for the coupled hydrolysis of succinyl-CoA to the production of ATP (or GTP) in the substrate-level phosphorylation step of the citric acid cycle (TCA).² This enzyme complex is formed as a heterotetramer, $\alpha_2\beta_2$, where the two α subunits each contain the coenzyme A and phosphate binding sites, and the two β subunits each contain the succinate binding sites and provide nucleotide binding specificity. This enzyme is Mg^{2+} -dependent.

References

1. Schürmann, M., Wübbeler, J.H., Grote, J., *et al.* Novel reaction of succinyl coenzyme A (Succinyl-CoA) synthetase: activation of 3-sulfinopropionate to 3-sulfinopropionyl-CoA in *Advenella mimigardefordensis* strain DPN7T during degradation of 3,3'-dithiodipropionic acid. *J. Bacteriol.* **193(12)**, 3078-3089 (2011).
2. Joyce, M.A., Fraser, M.E., Brownie, E.R., *et al.* Probing the nucleotide-binding site of *Escherichia coli* succinyl-CoA synthetase. *Biochemistry* **38(22)**, 7273-7283 (1999).

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